DOCUMENT RESUME

ED 207 385 HE 014 203

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TITLE Beyond Productivity to Quality.
SPONS AGENCY Carnegie Corp. of New York, N.Y.
PUB DATE Mar 81
NOTE 9p.; Paper presented at the Annual Meeting of the American Association for Higher Education (Washington, DC, March 1981).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Change Strategies; College Faculty; *College Role; College Students; Educational Benefits; Educational Improvement; Educational Objectives; *Educational Quality; *Higher Education; Incentives; *Productivity; Quality Control; Quality of Life; Standards

ABSTRACT

The current, popular time-and-motion approach to faculty productivity suggests an antiquated strategy not currently in use in business and industry. Higher education needs to develop an idea of productivity that focuses on quality of product, not quantity. The institution must have a commitment to the physical, emotional, and intellectual well-being of each worker, its investment in human resources; in this arena, higher education and business already have much in common. Several key questions higher education needs to ask of itself include: Does it serve national needs by getting into higher education the people who can benefit most from it, and encourage completion of programs and continuing education to receive good return on the investment? Can we use resources effectively without overtaxing them? What incentives are offered at all levels for improvement of performance, diversity, cooperation? Have students become autonomous learners? Are faculty and administrators working together in areas that will clearly benefit the institution? Have graduates increased their ability to contribute to and benefit from society? Are faculty organized in a way that allows them to do the things at which they excel? Is the quality of campus life such that students and faculty will stay? The value-added approach must be taken to higher education programs, and by extension of this philosophy, no one should be taught what he already knows. Standards must change in higher education before other sectors, like the legislatures, decide to perform that task for academe. (MSE)

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ED207385

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AAHE
Thursday, March 5, 1981

BEYOND PRODUCTIVITY TO QUALITY

The basic thesis of this paper can be simply stated: In the past, higher education has tended to adopt innovations only after their inadequacies have been established in testing by other elements in our society. We did it with Program Budgeting, adopting it in many institutions of higher education the same year that most Federal agencies were no longer required by the Office of Management and Budget to submit program budgets. The same was true of systems planning and many other higher education innovations. We are about to do the same thing with our discussions of productivity, assuming a stance that increasing the credit-hour production of the faculty will increase the school's productivity. This time-and-motion approach to the problem suggests an antiquated strategy (education Taylorism might be a good description) which is not currently in use in most businesses and industries. We need to develop a notion of productivity which is compatible with the business we are in, not someone else's.

I. Brief History

Right after World War II, the Japanese had to make several key decisions. The first was that they could not compete with the United States in terms of widgets produced per hour (the then current definition of productivity). Rather, they chose to compete with us in terms of quality -- Japanese goods would be better built, would require less maintenance, and would last longer. Their goal was not to make more cars than we do, but to make better cars. In this case, 30 years ago the Japanese discovered that one could go past productivity to quality and be successful. I am proposing that higher education needs to make the same decision in the eighties.

Almost unnoticed by educators, business and industry have moved from Taylorism through the Hawthorne studies (worker involvement in the process increases output and retention), the beginnings of worker teams and self management, to the whole Human Resource Development burst of the last decade. Most of the Fortune

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Five Hundred now have Vice Presidents for Human Resource Development. This is not the classic personnel function -- right person in right job. This is a dual commitment of the firm to develop natural resources through production, and to develop the human resources of the firm with equal vigor -- the physical, emotional, intellectual development of each worker is a major commitment. Just as a financial budget can be audited to find out how things are going and whether we are where we should be or not (the technique of variance reporting), a firm can also audit its investment in human resources and monitor the success of various programs. Examples of such characteristics are the progress of women and minorities in the promotion patterns of the firm, effective use of company programs of recreation, education, counseling by workers, the increase in retention of workers and the reduction of absenteeism and downtime.

Today, there is considerable overlap between the values of the business firm and those of higher education. This overlap has led to a major increase in collaborative activity between businesses and educators. Most businesses, as well as museums, military establishments, and governments at the state and city level, have extensive educational programs and facilities. Indeed, about 400 business sites include a building that is marked "college," "university," "institute," or "center." Just as health-care and personal counseling have become corporate functions in recent years, many human resource development programs insist that the provision of educational opportunities (often in facilities owned and operated by the firm) is an essential function of corporate management. Given the choice of "buying" education programs from institutions of higher education or "making" them in-house, many firms have chosen the latter, mainly to achieve better control and to ensure that matters of particular importance to the firm are presented. Thus, there is a collaborative and a competitive perspective in relations of the corporation and higher education.

But even when corporations decide to "grow their own" educational programs, they are doing so not to fight with colleges and universities, but to increase their own productivity in this larger sense of the word. Larger firms will also begin to make their own health insurance and retirement programs for the same reason -- they are dedicated to <u>increasing the quality of working life</u>, on the grounds that long-term productivity will be increased. The Japanese have criticized us, justifiably, on the grounds that Americans are only interested in short-term profits and do not care enough about the lives of the workers. The quality-of-work-life movement is an attempt to remedy that fault. It is another example of how one can move from productivity to quality. Perhaps the best statement of this view of productivity comes from the opening remarks of Tony Petrella at the 1980 OD Network Annual Conference:

> ". . . To some people, productivity has come to mean working harder and faster, to produce cheaper products, of lower quality, in order to end up with a net profit at the expense

> of almost everything else. But that's materialistic, number-counting, running wild. Productivity has a deeper meaning, and people want to be productive in this deeper sense. To be productive can mean that we make the most of the limited resources that we have. It can mean putting quality into products. It can mean working safely at the work place and within the larger environment. And it can mean the excitement of mastery and the dignity one can find through shaping something of value. The quiet dignity that comes from excellence in one's work, from the conservation of resources, and from the creation of value, is one of the deepest meanings we can hope to find. This is what it means to be productive. It is a purpose worth pursuing as an individual, as an organization, and as a nation."

Finally, the quality-of-work-life movement has been instrumental in creating a new form of collective bargaining unit, at least in the Unites States -- the labor-management team. Bethlehem Steel, for example, is spearheading the way for the steel industry through a new agreement that provides for the establishment of a labor-management team for the solution of grievances. This is a major move away from the adversarial relationships of England and France, toward the Japanese view of unionization. An essential part of the new contracts is the notion, verified by research, that workers can produce more when they are involved in the decision processes of production. (Indeed, one pet-food company developed an experimental plant in which there were no managers -- the workers themselves did the hiring and firing, wrote the checks, organized the work, etc. Production gains were spectacular, but the success of the experiment caused many of the company's managers such discomfort over their own jobs that the experiment was shelved. Managers are human, on occasion.)

II. Implications for Higher Education

The most important notion for people in higher education coming from this material is the rapid change of the reversed old saw, "Everybody does something about productivity, but nobody ever talks about it." We need to think about productivity and quality in terms of the business we are in; not by aping the usage of business thirty years ago. Here are a few ways of thinking about productivity in higher education:

A. How Productive is our National System of Higher Education?

Some of the key questions here involve relatively clear tasks.

1. Do we serve the needs of the nation by getting the people who can benefit from higher education into higher education, disregarding characteristics like race, sex and class? Do we encourage completion of programs, so that the nation can receive a good return on its human resource investment?

2. Do we develop a wide range of knowledge and skill in students so that a diverse occupational structure can be supplied with people who can perform well, and who have the capacity to continue educating themselves after college?

3. Can we do our major jobs (teaching, research, and service) in a quality way without overtaxing precious material and human resources?

4. Realizing that only one in four adults being educated is in a college or university, have we established collaborative relationships with these other postsecondary educational institutions to make sure that voluntary coordination is given a fair trial? While insisting that colleges and universities get a fair share of Federal and state resources, have we been helpful to the other institutions that perform valuable human services in our society?

B. How Productive are our State Systems of Higher Education?

Most of the material listed above can be reproduced here, with these additions:

1. What are the goals of state coordination that increase the performance of the campuses within the state? How do state coordinating authorities work with institutional leaders in order to improve the quality of institutions?

2. Do states with sophisticated systems of state-wide coordination of higher education produce students who know more? Faculty who do better research? What are the outcomes of state coordination that facilitate institutional quality?

3. Given that ours is a pluralistic system of education, does the state system of coordination work to encourage institutional differences and innovation? Are private institutions valued in the work of the state?

C. How Productive are our Institutions of Higher Education?

1. Have students become autonomous learners who will continue their education after they graduate or leave (a professed goal in almost every catalogue)?

2. Have faculty and administrators begun to work together in areas which will clearly benefit the institution?

3. Have graduates increased their ability to contribute to, and benefit from, society?

4. Are faculty organized in such a way that each can do those things in which they are most excellent (e.g., is the staff differentiated by excellence on particular tasks)?

5. Is the quality of campus life such that most students and faculty would stay, given other attractive alternatives? Are human resources cherished and shepherded just as natural and fiscal resources are? Are there incentive arrangements in place, in addition to tenure for faculty and grades for the students, that provide some intrinsic rewards as well as extrinsic verification?

D. Yardsticks of Quality and Productivity -- The "Value-Added" Approach

Quality things and persons are those blessed with a great deal of added value. There are many ways in which we can add value to things, resources and persons. Our methods of assessing productivity and quality must indicate clearly what sort of "value-added" strategy we are using; e.g., asking what a course in biology adds to a student is a slightly different way of framing the question -- if the student knew enough at the beginning of the course to get an "A" on the final, he would receive an "A" grade, but would fail any reasonable value-added measure.

Another obvious extension of the value-added metaphor for assessment is a very radical but simple idea: No one should be taught what they already know. A generation ago, it was possible to dismiss statements of this sort with a wave of the hand, but the microprocessor is but one device that will make the end of the eighties very exciting in this regard. It is now perfectly possible to individualize instruction in such a way that you can begin where the student actually is, in terms of knowledge and skills, even in non-linear or sequential material. If this were to become reality (and I'm betting on about 1990), then grades would become so obviously useless that the value-added evaluation would become the only one in use.

In research, we can ask the same question: what value is added to the knowledge base by each investigation? It is fairly common knowledge that some faculty members play it safe with small, redundant studies and restudies, adding little to the field. If one looks at the literature in such areas as class size, one is struck by the lack of synthesis in the field, of moving ahead toward more useful forms of research based on previous knowledge. It is as if each study were the first done in the field, with little thought given as to how the studies might fit together. Some of our most "productive" faculty members, in terms of number of publications, would not do well on value-added measures.

For some reason never fathomed by me, many human-service organizations described their work in terms that suggest no value added to the client. For example, hospitals are often described as being productive if all their beds are filled (and a filled bed was referred to by a hospital manager as a "sale" a few months ago); social workers are assessed for productivity on the size of their case load, while colleges and universities are often compensated by state authorities based on student credit hours generated per faculty FTE. What a difference it would make if hospitals were judged on value-added measures like the number of patients who entered sick and come out well, as well as those that maintained and increased

physical well-being and health! And social workers who could be assessed on the changes in quality of their client's life as a result of the social worker's efforts! It also could be easily demonstrated that colleges and universities are not in the business of generating credit hours, but that value-added measures could easily be developed that would be compatible with the business of higher education -- producing research results that benefit the field, increasing the fund of knowledge and skills of students compared to their entry points, serving the community in ways that add value to the persons living there.

Now that almost everyone knows that grades have virtually no relationship to success in the "afterlife" when students leave college, however you care to define success; isn't it time that we took seriously the notion that there is a better, more useful way to assess the performance of human beings in educational settings than giving them letter grades? If we learn anything from the experience of business and industry, it is that one's definitions of quality should reflect the business one is in. I do not believe that grades are a reflection of the business we are in. Being told that "you are an 'A' student in Chaucer," is one of the most non-educative things I have been told. What did I do best? What do I need to work on? How can I use the data to improve my performance?

We learn from the Dictionary of Occupational Titles that there are levels of skill in working with data, working with people, and working with things. The system of assessment in use at Evergreen and other institutions brings out these differences in useful ways, rather than homogenizing them into one symbol -- ("You are a B").

I know that there are clear steps to solving problems that are constant in any intellectual content area, and that skill in these problem-solving techniques characterized not only good students and faculty, but also successful people in hospital administration, company management, and sales. (Other fields also would produce high correlations, but the studies have not been done.) Here is one version:

1. Selective attention -- the ability to discern what is essential to the problem -- eliminating distractors in the problem statement, separating wheat from chaff, etc.

2. Problem components -- reducing the problem down into a set of workable "chunks" that can be dealt with.

3. Analogizing -- making use of other knowledge that is relevant to the solution of the new problem -- from the known to the unknown.

4. Multiple solutions -- the ability to tolerate ambiguity while a number of potential solutions or hypotheses are tried.

5. Careful affirmation -- testing the solution by another method than the method used to derive it.

These skills seem to be transferable, not only from physics to pre-Raphaelite poetry, but to a variety of occupations as well. They are easily assessed, and growth in skill levels is easily measured. Here is yet another way to think about the value-added contribution of a college education -- content knowledge plus analytical skills in a generalizable form.

The field is wide open for the development of new measures of student attainment that will be more rigorous, more fair, more open to inspection, and more reflective of the range of human attainments actually valued in American society. The competency movement in public education suggests that if educators do not move quickly to develop these new measures, various other publics will do so. We now have considerable resources in universities, as well as the assessment-center staff members in industry, plus the performance skills of military personnel, to begin to work out some more useful measures of student (and faculty) attainment.

III. Conclusion

This paper has attempted to point out that the major danger to higher education in the increased American concern with productivity is that we will once again imitate a standard that was declared obsolete by other sectors of our society. What is needed, and possible, is to develop some ways of assessing that are integrally linked to our work. This can be done for institutions, state systems, and for our national collection of institutions of postsecondary education. It is a way of moving beyond mere head counts as our standard of productivity to a redefiniton of quality that is integral to the mission and functions of higher education. If we do not, I am sure that other insitutions like state legislatures will be delighted to perform that task for us. The other possibility is that higher education will become more Mandarin, more isolated from the concerns of people and institutions, while the energy and innovative spirit simply flows around us to others. I do not believe that these alternatives are inevitable. We can collaborate with others and maintain our integrity as institutions of higher education. That is, for me, the promise of the eighties.

This paper was prepared with support from the Carnegie Corporation as a grant to the Community College Productivity Center. Earlier versions were presented to the Council of Chief State School Officers, members of the League for Innovation in Community Colleges, and the Conference on Collaboration presented by the Maricopa Community College District entitled, "It's Your Business."

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NTL Institute
February 27, 1981

IF YOU WANT TO LEARN MORE -

1. In higher education, the Community College Productivity Center, with support from the Carnegie Corporation, has done excellent work on a number of campuses in terms of three goals: reducing energy shortage, reducing student attrition, and increasing the efficiency of staff utilization. See especially the report of Lane Community College.

   The American Productivity Center provides a number of public meetings on topics related to productivity, some dealing with public sector institutions.

   On the quality of working life area, see the annual conferences hosted by the Ontario Quality of Working Life Advisory Committee in Canada.

   On university-industry cooperation, see Neal Brodsky, et al., University-Industry Cooperation, New York University, Graduate School of Public Administration, 1980.

2. On productivity in the U.S. and Japan, the best overall piece is J. M. Juran, "Two Views of Productivity" Management Review, November, 1978.

3. To see how the concept of productivity can be applied in a variety of settings, including education, see C. Benson and H. Hodgkinson, Implementing the Learning Society, Jossey-Bass, 1974.

4. For surveys of incentive systems used in state and local government agencies (most of them applicable to colleges and universities), write to me.

5. A number of industries have now provided for labor-management teams as a result of the collective bargaining process.

6. For the result of environmental factors (quality of working life) on faculty productivity, get in touch with James E. Bess, Department of Higher Education, Columbia University. His book on the subject will be out next year.